

What is claimed is:

1. A method for illuminating a liquid crystal panel which has a display area and comprises a plurality of rows which are sequentially addressed during a frame refresh cycle, said frame refresh cycle having a period T and each of the plurality of rows having a
5 predetermined refresh time within the frame refresh cycle with the period of time between successive refresh times for each row (the cycle refresh period) being equal to T , said method comprising:

(a) providing illumination light from a light source;

(b) compressing the illumination light into a stripe which has an area smaller than
10 the display area, said stripe being parallel to the plurality of rows;

(c) using a moving optical element to cause the stripe of illumination light to scan over the display area in a direction perpendicular to the plurality of rows, said direction corresponding to the direction in which the plurality of rows are sequentially addressed during the frame refresh cycle; and

(d) synchronizing the scanning of the stripe of illumination light with the frame
15 refresh cycle so that for each row of the display, the majority of the illumination light which impinges on the row as a result of the scan is in the last half of the cycle refresh period for the row.

2. The method of Claim 1 wherein the majority of the illumination light which
20 impinges on the row as a result of the scan is in the last third of the cycle refresh period for the row.

3. The method of Claim 1 wherein the ratio of the area of the stripe to the display
25 area is less than or equal to one third.

4. A method for illuminating a display panel which has a display area and comprises a plurality of rows which are sequentially addressed during a frame refresh cycle, said frame refresh cycle having a period T and each of the plurality of rows having a
30 predetermined refresh time within the frame refresh cycle with the period of time between

successive refresh times for each row being the cycle refresh period for the row and being equal to T, said method comprising:

(a) providing illumination light from a light source;

(b) compressing the illumination light into a stripe which has an area smaller than the display area, said stripe being parallel to the plurality of rows;

(c) sequentially scanning the stripe of illumination light over each of the plurality of rows during the frame refresh cycle; and

(d) synchronizing the scanning of the stripe of illumination light with the frame refresh cycle so that for each row of the display, the majority of the illumination light which impinges on that row as a result of the scan is in the last half of the cycle refresh period for that row.

5. The method of claim 4, wherein sequentially scanning the stripe of illumination light comprises using a moving optical element to cause the stripe of illumination light to sequentially scan the stripe over each of the plurality of rows.

6. The method of claim 5, wherein the moving optical element comprises a moving lens.

7. The method of claim 5, wherein the moving optical element comprises a rotating prism.

8. The method of claim 4, wherein synchronizing the scanning of the stripe of illumination light comprises synchronizing the scanning of the stripe of illumination light with the frame refresh cycle so that for each row of the display, the majority of the illumination light which impinges on that row as a result of the scan is in the last third of the cycle refresh period for that row.

9. The method of claim 4, wherein compressing the illumination light into a stripe comprises compressing the illumination light into a stripe which has an area that is one third or less of the display area.

5 10. The method of claim 4, wherein compressing the illumination light into a stripe comprises compressing the illumination light into a stripe using the moving optical element.

11. The method of claim 4, wherein the display panel comprises a liquid crystal display panel.

10 12. A display comprising:
an illumination system comprising
a light source, and
a movable optical element,
15 wherein the illumination system is capable of compressing light from the light source into a stripe of illumination light that has an area smaller than the display area;
a display panel comprising a display area and a plurality of rows; and
a processor configured and arranged to sequentially address each of the plurality of rows of the display panel during a frame refresh cycle to display an image, wherein the frame
20 refresh cycle has a period T and each of the plurality of rows has a predetermined refresh time within the frame refresh cycle with the period of time between successive refresh times for each row being the cycle refresh period for the row and being equal to T , the processor being further configured and arranged to move the optical element to scan the stripe of illumination light sequentially over each of the plurality of rows in a synchronized manner so that the
25 majority of the illumination light impinges on each row during the last half of the cycle refresh period for that row.

13. The display of claim 12, wherein the movable optical element comprises a movable lens.

14. The display of claim 12, wherein the movable optical element comprises a rotatable prism.

5 15. The display of claim 12, wherein the processor is configured and arranged to move the optical element to scan the stripe of illumination light sequentially over each of the plurality of rows in a synchronized manner so that the majority of the illumination light impinges on each row during the last third of the cycle refresh period for that row.

10 16. The display of claim 12, wherein the movable optical element is capable of compressing light from the light source into a stripe of illumination light that has an area that is one third or less of the display area.

15 17. The display of claim 12, further comprising a projection lens that receives light from the display panel.

18. The display of claim 12, wherein the display panel comprises a liquid crystal display panel.

20 19. The display of claim 12, wherein the movable optical element is capable of compressing light from the light source into a stripe of illumination light that has an area smaller than the display area